

adidas Group

The right team with the right experience wins big



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adidas Group Spartanburg, SC distribution centers



Two DCs receive and ship hundreds of thousands of units of footwear and apparel daily.

Founded in 1924 with global headquarters in Germany, the adidas Group is the second largest clothing and consumer goods manufacturer in the world. Specializing in sports footwear and sporting goods, the adidas Group and its brands also produce bags, shirts, watches, eyewear and other sports-related items.

adidas®
GROUP

When adidas purchased British-based rival Reebok in January of 2006, the company decided to examine its combined U.S. distribution network. This purchase gave the company the opportunity to consolidate distribution centers, increasing and improving service levels while reducing overall operating costs.

The adidas Group, with Sedlak Management Consultants as the system integrator and Intelligrated® as the automated material handling system supplier, set about designing and building a new greenfield campus in Spartanburg, S.C.

The project would become the largest adidas Group distribution site in the world at over 2 million square feet. Two DCs, set on a 258- acre site, would receive and ship



Each DC features highly automated conveyor and sortation systems from Intelligrated.

hundreds of thousands of units of footwear and apparel each and every day. The collaboration between adidas, Sedlak Management Consultants and Intelligrated resulted in an on-time and on-budget delivery of a project that spanned three years. And it started with some clear objectives and a sound plan.

The plan: consolidate DCs, reduce costs, improve service and prepare for growth

With retailers demanding faster inventory replenishment turns, adidas set out to ensure that the new facilities could meet this demand, gaining a competitive edge in the market with more responsive fulfillment times. According to adidas Facility Manager Bob Henriques, planning for the consolidated DCs began with three overall goals of improving service levels to customers, reducing overall operating costs and preparing for future growth.

- 1. Improve service levels to customers:** To this end, adidas decided to remain in Spartanburg, South Carolina. In South Carolina since 1988, this strategic location ensured that 83 percent of customers in the largest markets were within three days ground shipping.
- 2. Reduce overall operating costs:** Lowering costs and gaining efficiencies were key drivers for the consolidation, and selection of the right systems and strategic deployment of automation would be key to cost reduction.
- 3. Prepare for future growth:** In addition to handling daily volume, the new facilities would also need to be able to handle future expected changes in customer order profiles as well as planned growth, particularly in e-commerce.

“Our e-commerce direct-to-consumer business is growing significantly,” relates Henriques. “We distribute both adidas and Reebok products through e-commerce, and as a company we had significant growth plans in this area, making the ability to fulfill these types of orders an integral part of our planning process.”

World-class company seeks world-class suppliers

The company selected Sedlak Management Consultants, an Ohio-based supply chain firm specializing in distribution consulting, as the system integrator.

“As a world-class company and international brand, adidas looks for world-class partners that stand behind their products and services,” said Steve Bybyk, manager, Sedlak Management Consultants. “This was an important consideration behind the selection of Intelligrated.”

According to Patrick Sedlak, vice president of Sedlak Management Consultants, Intelligrated was chosen because the company demonstrated the innovative thinking that he believed would prove valuable to the adidas Group’s unique challenges.

“adidas had an extremely tight timeframe to install and test the physical equipment, and a budget that created a need for innovative value engineering,” added Sedlak.

System overview: DC1 and DC2 – design innovations for optimized material flow

DC1 handles apparel and provides value-added services (VAS) as required by the customer, such as hangers and price tags, while DC2 handles footwear and hard goods. Both DC1 and DC2 process an ultra-high volume of outbound cartons per day.

The layout of both DC1 and DC2 differ in certain key areas relating to specific, product-related picking and packing requirements.

Receiving – from around the world direct to main street

Both the DC1 and DC2 receiving docks are designed to process inbound containers from around the country and around the globe, with multiple dock doors providing the ability to receive multiple shipments at the same time.

Once incoming goods are received, cases are put away on the storage racking and pallets are transferred by a pallet conveyor to an area adidas calls “Main Street,” the center aisle of the storage rack in each DC. Cases are then put away in pallet locations as well as individual case locations.



A gaylord dump system transports bulk-picked items via a “waterfall” of conveyors to the induction stations.

Picking – bulk dumps start the morning wave, e-waves end the day

When a facility needs to maintain a high volume throughput, product needs to get into the system without a long ramp-up time during the first segment of the shift. adidas approached this challenge by including a “bulk dump” and “super sort.” In DC1, the evening picks are stored in gaylords filled with shirts, shorts, sweatshirts, pants and other apparel items. In DC2, the evening “super sort” is done to specially designed, two level carts that hold stacks of shoe boxes.

Intelligrated’s engineering team designed two key material handling concepts that would be able to introduce the large amount of daily product that adidas required: a “waterfall” induction in DC1 and a “domino” for DC2.

Waterfall induction: The efficiencies gained by sorting the bulk of the morning’s apparel picks into gaylords would be quickly lost if workers then needed to induct individual pieces from the gaylords into the system. To address this issue, Intelligrated implemented a gaylord dump system. Gaylords are dumped onto a collection conveyor with tall, angled walls to ensure that all products remain on the conveyor.

Intelligrated also designed a “waterfall” of several belt transportation conveyors to move this product from the ground floor to the induction stations nearly 20 feet overhead.

CASE STUDY

Domino of shoeboxes: Footwear presented its own challenge, as the boxes of shoes are often unwieldy and time-consuming to induct onto a sorter one at a time. Intelligrated designed a way for workers at induction stations to reliably and accurately induct shoe boxes onto the conveyor.

Stacks of four to eight shoeboxes are pulled from the “super sort” carts and deposited vertically onto an Intelligrated v-belt driven roller conveyor. The conveyor then “dominos” these shoe boxes, catching the end of each box and toppling it onto the incline conveyor, followed immediately by the next box, in a singulated line. This enables employees to load multiple items onto the crossbelt sorter in one motion, rather than one or two at a time, providing an ergonomic induction process.

“These inductions of DC1 and DC2 are examples of Intelligrated’s innovative value engineering that let us meet the performance requirements, and the budget, for this project,” said Bybyk.

In addition to the bulk picks, both DC1 and DC2 allow for residual picking to be inducted into the system. In DC1, associates pick products from storage first and then from full cases. The residual items are conveyed up the waterfall to the unit sorter.

In DC2, full cases of shoes are distributed to workstations in a round robin pattern. Boxes are conveyed down and staged at eye level to each workstation, where associates scan the full case label and receive instructions from the WMS as to how many products should be pulled from each box, or whether the box should be completely emptied.

As part of adidas’ growth initiative in its e-commerce sector, the company offers same-day shipping guarantees for orders placed before 3 p.m. adidas completes emergency waves (e-waves) two or more times per day, once in the morning for

Environmentally friendly

The buildings’ sustainability initiatives include:

- Run-on-demand logic in the Motor Driven Roller conveyors;
- Recycling boxes/corrugate;
- Reusable totes for picking area;
- Recycling apparel’s plastic bags that are removed during value-added-services;
- Recycling throughout the plant for associate’s plastic bottles;
- Motion-activated lights in the racking/storage area.



Workers at induction stations deposit stacks of shoeboxes to start a “domino” to the sorter.

those orders that were placed after 3 p.m. the previous day, and once around 4 p.m. to fulfill the guarantee of same-day shipping response.

Packing

Another key difference between DC1 and DC2 is how and where individual cartons are packed. The unit sorters can sort both apparel and footwear, up to 18,000 units per hour, and are very similar in each DC.

In DC1, totes are packed off the unit sorter and sent to the mezzanine level for packing via an Intelligrated 7-to-1 timed release packing merge. The mezzanine holds a total of eight lines; the first five lines are reserved for seeding and VAS, where hangers are added to cartons, clothing is removed from poly-bags and clothing is placed on hangers. The final three lines on the mezzanine are designated for orders that do not require any VAS.

Because footwear in DC2 requires significantly less VAS, cartons are sorted directly from the chute to a final shipping carton.

Shipping

After a carton is complete in both DC1 and DC2, it is then transported through the print-and-apply area, where boxes receive up to three labels, including a shipping label to the left side leading edge, a carton content label on the left side applied directly after the shipping label, and a parcel label to the right side leading edge if required.

Cartons move onto the central packing merge (highspeed IntelliMerge® in DC2) and are routed to shipping via an Intelligrated IntelliSort® sliding shoe sorter.

CASE STUDY

In both shipping departments, adidas has the ability to load parcel, less-than-truck (LTL) or full-truckload trailers. Each DC's shipping area also processes consumer and associated returns.

Results: across the finish line on-time, on-budget, on-plan

With Intelligrated's extensive knowledge and experience with value engineering, the adidas team was able to bring both DCs online, on-time and on-budget.

"One of the key things that Intelligrated brought to the table for us was remaining a constant, accountable presence," said Henriques. "We had representation on site every day to ensure that this project received the commitment it needed to finish on time."

"We are happy to report that we're meeting our productivity numbers, our savings are on track to what we had calculated them to be, and we improved our service levels," notes Henriques. "The adidas Group is proud of the state-of-the-art facility that will support our business for many years to come."

So the next time you shop online or in a store and see adidas Group brands, think about the waves and waterfalls that bring those products quickly and accurately from the DC to the consumer. With Sedlak Management Consultants and Intelligrated on its team, adidas Spartanburg will keep winning new customers now and into the future.

Spartanburg facilities at-a-glance

DC1: apparel distribution facility

- Total facility operating space - 1,019,563 SF
- Building size - 803,563 SF
- Mezzanine - 216,000 SF

DC1: equipment

- 29,000 linear ft (5.5 miles) of conveyor
- Full and split case conveyor
- Apparel induction/bulk dump
- Transportation conveyor
- Accumulation conveyor
- Print-and-apply modules
- Packing merge
- IntelliSort sliding shoe shipping sorter

DC1 and DC2: software

- InControlWare® Conveyor and Sortation Control System

DC2: footwear distribution facility

- Total facility operating space - 1,309,600 SF
- Building size - 1,096,700 SF
- Mezzanine - 212,900 SF

DC2: equipment

- 26,000 linear ft (4.8 miles) of conveyor
- Full and split case conveyor
- Footwear induction
- Transportation conveyor
- Accumulation conveyor
- Print-and-apply modules
- IntelliMerge high-speed packing merge
- IntelliSort sliding shoe shipping sorter

About Intelligrated

Intelligrated® is a leading North American-based, single-source provider of intelligent automated material handling solutions that drive fulfillment productivity for retailers, manufacturers and logistics providers around the world. Through a broad portfolio of automation equipment, software, service and support, Intelligrated solutions give businesses a competitive edge and optimize operational performance through increased flexibility, efficiency and accuracy.

Intelligrated designs, manufactures, integrates and installs complete material handling automation solutions including conveyor, IntelliSort® sortation, Alvey® palletizers and robotics, and automated storage and retrieval systems – all managed by advanced machine controls and software. Intelligrated Software offers warehouse execution systems, a scalable suite of software that manages the entire fulfillment process, including equipment, labor and business intelligence, integrated with voice- and light-directed picking and putting technologies.

From concept to integration to lifecycle support services, Intelligrated delivers dependable, sustained distribution and fulfillment success, and maximum return on investment. Intelligrated backs every project with 24X7 multilingual technical support and access to lifecycle service through a network of national, regional and local service centers.

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